## AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings of claims in the application:

1.    (Previously Presented)  A method for utilizing additional color inks in a printing system, comprising:

receiving image data as input into a color printing system having YMCK inks and at least one additional color ink;

tessellating an available color space as defined by the YMCK inks and at least one additional color ink, by using vertices representing each YMCK and the at least one additional ink, to divide the available color space into regions where the regions are arranged so as to minimize the range of luminance variation found within the regions; and,

applying the resultant tessellated available color space in the selection of the amounts of the YMCK inks and the at least one additional color ink to the rendering of the image data.

2.    (Previously Presented)  The method of claim 1 further comprising:

overlaying the tessellated color space result from the prior tessellating step with interpolation points so as to create an overlay lookup table.

3.    (Previously Presented)  The method of claim 2 further comprising:

applying image data to the overlay lookup table to point to which additional color inks to select and provide the amounts to use of the selected additional color inks.

4.    (Original)  The method of claim 1 wherein the regions are arranged so that region boundaries are predominately orthogonal to the axis of luminance.

5.    (Original)  The method of claim 3 wherein the amounts are interpolated from the interpolation points stored in the overlay lookup table.

6.      (Original)   The method of claim 5 wherein the interpolation is performed by calculating the volume of tetrahedra formed by the interpolation points.

7.      (Original)   The method of claim 1 wherein the regions are non-overlapping.

8.      (Previously Presented)  A method in a printing system having YMCK inks, for utilizing additional color inks providing a given resultant color space, comprising:

        receiving image data as input into a redundant color printing system having YMCK inks and additional color inks;

        tessellating into regions the given resultant color space so as to minimize luminance variation in the regions as defined by the YMCK and additional color inks utilized; and,

        applying the resultant tessellated regions in the selection of the amounts of the YMCK inks and additional color inks to the rendering of the image data in the redundant color printing system.

9.      (Previously Presented)  The method of claim 8 wherein the tessellation is achieved by:

        sorting the YMCK and additional color inks by order of luminance from the darkest to the lightest,

        adding the YMCK and additional color inks as points to the color space and connecting the points in the sorted order so as to create tetrahedral tessellated regions.

10.     (Original)  The method of claim 9 wherein the regions are non-overlapping.

11.     (Previously Presented)  The method of claim 10 further comprising:

        overlaying the tessellated color space with interpolation points so as to create an overlay lookup table.

12.     (Previously Presented)  The method of claim 11 further comprising:

applying image data to the overlay lookup table to point to which redundant color inks to select and provide the amounts to use of the selected redundant color inks.

13.     (Previously Presented)  A method for utilizing YMCK and additional color inks having a given resultant color space for rendering image data in a printer, comprising:

receiving image data as input into a redundant color printing system having YMCK inks and at least one additional color ink;

tessellating the given resultant color space into regions so as to minimize luminance variation in the regions, the regions delineated by vertices representing each YMCK ink and the at least one additional color ink by:

sorting the delineated vertices as defined by each YMCK ink and the at least one additional color ink by order of luminance from the darkest to the lightest and

connecting the delineated vertices as defined by YMCK inks and redundant color inks in the sorted order across the color space so as to create tetrahedral non-overlapping tessellated regions with borders which are as much as possible predominately orthogonal to the axis of luminance; and,

applying the resultant tessellated color space regions in the selection of the amounts of the YMCK inks and the at least one additional color ink to the rendering of the image data in the redundant color printing system.

14.     (Previously Presented)  The method of claim 13 further comprising:

overlaying the tessellated color space with interpolation points so as to create an overlay lookup table.

15.     (Previously Presented)  The method of claim 14 further comprising:

applying image data to the overlay lookup table to point to which YMCK inks and the at least one additional color ink to select and provide the amounts to use of the selected YMCK inks and the at least one additional color ink color inks.

16.     (Original)  The method of claim 13 wherein if creating a tetrahedral non-overlapping tessellated region results in a concave shape then additional tetrahedral non-overlapping tessellated regions are added to fill the cavity and maintain a convex construction.